Overview

The American Competitiveness Initiative: Challenges and Opportunities for Hispanic Serving Institutions

In his State of the Union Address to the nation in January 2006, President George W. Bush announced the American Competitiveness Initiative (ACI) to encourage American innovation and strengthen our nation's ability to compete in the global economy. This ambitious strategy will increase federal investment in critical research, ensure that the United States continues to lead the world in opportunity and innovation, and provide American children with a strong foundation in math and science.

The American Competitiveness Initiative commits $5.9 billion in FY 2007, and more than $136 billion over 10 years, to increase investments in research and development, strengthen education, and encourage entrepreneurship and innovation. Included in this effort will be key federal agencies that support basic research programs in the physical sciences and engineering. They include the National Science Foundation (NSF), the Department of Energy's Office of Science, and the Department of Commerce's National Institute of Standards and Technology (NIST).

Hispanic Serving Institutions and Federal Support

Inherent in the American Competitiveness Initiative are enormous opportunities for Hispanic Serving Institutions (HSIs) to help advance America's competitiveness, provided they have the necessary capacity and infrastructure to respond at the level required. This means HSIs must have leveraged the federal resources they received in the past and are developing the capacity to maximize potential federal (and commercial) resources in the future.

> *A Hispanic Serving Institution, as defined in the Higher Education Act of 1965, as amended, is, among other things, a nationally accredited institution of higher education, which has an enrollment of undergraduate full-time equivalent students that is at least 25 percent Hispanic students, of whom half are low-income.*

The source of federal support for HSIs has come from across the federal government. A principal source is the U.S. Department of Education's Institutional Development and Undergraduate Education Service (or IDUES), which administers programs funded under Title III and Title V of the Higher Education Act. The Aid for Institutional Development programs (commonly referred to as the Title III programs) supports improvements in educational quality, management, and financial stability at qualifying postsecondary institutions. Funding is focused on institutions that enroll large proportions of minority and low-income students.

The initiative for institutions that focus on serving Hispanic and other low-income students is included under the Title V, Developing Hispanic Serving Institutions Program. In fiscal year 2007, the U.S. Department of Education awarded $94.9 million to Hispanic Serving Institutions through this program and about the same amount is proposed in fiscal year 2008.

In addition to the U.S. Department of Education, other federal agencies have awarded a significant amount of funds to Hispanic Serving Institutions over the past few years. Of the 29 federal departments and agencies that were asked to report to the President's Advisory Commission on Educational Excellence for Hispanic Americans in 2002, the combined funding of 18 of these 29 agencies totaled almost $2 billion to Hispanic Serving Institutions and Hispanic-serving education organizations. Not surprisingly, the U.S. Department of Education, U.S. Department of Health and Human Services, U.S. Department of Labor, and the National Science Foundation awarded the larger amounts of funds.

HSI Capacity and Education Reform

While this level of funding from the federal government can be relatively significant in helping HSIs develop capacity, it is incumbent upon HSIs to ensure that federal resources are indeed helping strengthen not only present institutional capacity, but also helping sustain long term capacity that will permit institutions to grow their own – particularly when it comes to graduating more Hispanic students with advanced degrees in math, science, and engineering.

This requires that attention be devoted to the public education system that is producing the students whom HSIs inherit. Federal education reform in the form of the No Child Left Behind Act of 2002 has been instrumental in closing academic achievement gaps for Hispanic students in the early grades, that is, kindergarten through eighth grade. But much more work remains to be done, especially at the high school level.

It is well known that the Hispanic high school dropout rate has persisted for far too long. Research, surveys, and study after study have shown that Hispanic students fail to complete high school at rates persistently higher than their non-Hispanic peers.

The reasons for this are also known. Hispanic students are entering high school reading below grade level; many are not academically prepared in the core subject areas of math and science; and even more have little or no access to highly qualified teachers.

Even among the Hispanic students who do complete high school, fewer than half pursue a postsecondary education. And of those that do enroll in a college or university, many find themselves taking remedial courses because they did not receive the necessary academic preparation in high school to undertake the rigors of a college education.

Clearly then, academic preparation in elementary, middle, and high school is key to embarking on a successful path to gainful employment or a postsecondary education, particularly in the science, technology, engineering, and mathematics (STEM) fields.

HSIs As Stakeholders

Hispanic Serving Institutions have a vested interest in ensuring that the Hispanic students that are welcomed onto its campuses have the academic preparation that will successfully lead them to degree completion, ultimately helping staff the institutions' own math, science, and engineering departments and programs.

The simple fact is our nation needs more mathematicians, scientists, and engineers in order to compete effectively in a global economy. Norm Augustine, head of the National Academies Gathering Storm committee and former chairman of Lockheed Martin, put it this way to Congress, "Americans find themselves in competition for their jobs not just with their neighbors but with individuals around the world." The committee's number-one recommendation for improving the situation is to strengthen the K-12 pipeline, especially in math and science.

According to a 2002 report by the Organization for Economic Cooperation and Development, only 6% of American students received graduate degrees in the field of engineering. That same year, Turkey, Sweden, Finland, Denmark and Austria conferred at least twice the percentage of graduate degrees in engineering, than did the U.S. Moreover, Japan and the Republic of Korea conferred graduate level engineering degrees to 39% and 34% of their students, respectively, that year. It is evident that the U.S. is sorely behind.

Not surprisingly, the number of Hispanic students in the U.S. earning masters and doctoral degrees in the core fields of math, science, and engineering are especially low. According to the National Center for Educational Statistics, Hispanic students made up only 2% of all students receiving master degrees and only 1% of students receiving doctorate degrees in engineering in

academic year 2001-2002. The pattern is no different in mathematics. Hispanic students comprised only 1% of all students receiving master and doctorate degrees in mathematics.

Responding to the Challenge

We clearly have a lot of ground to make up – from the earliest grades to institutions of higher education. The growth of the Hispanic population in the U.S. over the past decade combined with its youthful profile and low levels of educational attainment, present a challenge to the most optimistic forecasts about the prospects of drawing future scientists, mathematicians, and engineers from the Hispanic community.

Hispanic Americans are poised, however, to respond to this newest challenge by supplying an important source of the nation's need for talent in science, technology, engineering, and math. And Hispanic Serving Institutions have an important role to play in preparing this talent and developing the capacity to lead the nation in critical research and innovation.

Conference on The American Competitiveness Initiative: Challenges and Opportunities for Hispanic Serving Institutions

The White House Initiative on Educational Excellence for Hispanic Americans has convened this conference at The University of Texas at El Paso to lay the groundwork for the steps that must be taken to respond to the ACI challenge. A range of topics designed to help build the capacity and develop the infrastructure of Hispanic Serving Institutions will be addressed over the course of the conference within a framework that engages other HSIs, the federal government, K-12 public schools, the high-tech commercial industry, and Hispanic science and engineering associations. Education reform and academic preparation, particularly in math and science, will be integral to the discussions that will take place over the three-day conference.

Conference sessions and forums will address a range of pertinent topics including: Hispanic student recruitment, retention, and graduation in the STEM fields; education reform, including academic preparation in math and science; technology transfer and technology commercialization; and HSI research capacity building. A variety of expert speakers and panelists will lead discussions and provide substantive information in each of the scheduled sessions. The presenters have been drawn from institutions of higher education, including Hispanic Serving Institutions, key federal agencies, Hispanic professional technology organizations, the high-tech commercial industry, and the U.S. Department of Education.

This conference is only the beginning of a dialogue and the actions we must take to ensure that we are all doing our part to help keep America competitive and prosperous for generations to come.

Program-At-A-Glance

The American Competitiveness Initiative: Challenges and Opportunities for Hispanic Serving Institutions

Monday, April 23, 2007

8:30 am – 9:30 am	**Registration**
9:30 am – 10:00 am	**Welcome and Opening Remarks** *Adam Chavarria, Executive Director*

	White House Initiative on Educational Excellence for Hispanic Americans *Dr. Diana Natalicio, President* *The University of Texas at El Paso*
10:00 am – 11:45 am	**Forum: The Role of HSIs in the Nation's STEM Enterprise**
12:00 pm – 1:00 pm	**Luncheon**
1:15 pm – 2:45 pm	**ACI: Investment Priorities and Partnership Opportunities for HSIs**
3:00 pm – 4:15 pm	**General Session: Positioning HSIs to Respond to the Nation's STEM Needs**
4:30 pm – 5:30 pm	**Technical Breakout Sessions (Concurrent)** • Federal Contract and Grant Administration • Closing and Performing Under a Grant or Contract • Funding Opportunities for HSIs
5:45 pm	**General Session/Close**

Tuesday, April 24, 2007

8:30 am – 9:30 am	**Registration**
9:30 am – 10:00 am	**Opening Remarks**
10:00 am – 11:45 am	**Technology Commercialization and Research needs of the Private Sector**
12:00 pm - 1:00 pm	**Luncheon**
1:15 pm – 2:45 pm	**Broadening the Participation of Hispanics in the STEM fields: The Role of Technical Professional Organizations**
3:00 pm – 4:30 pm	**HSIs: Recruitment, Retention, and Graduation of Hispanic students in STEM fields**
4:45 pm	**General Session/Close**

Wednesday, April 25, 2007

8:00 am – 9:00 am	**Registration**
9:00 am – 9:30 am	**Opening Remarks** *Dr. Joseph Guzman* *Deputy Assistant Secretary for Strategic Diversity Integration* *Office of the Assistant Secretary of the Air Force* *(Manpower and Reserve Affairs)*
9:45 am - 11:00 am	**General Session: Strengthening our Nation's Academic Competitiveness**
11:15 am – 12:15 pm	**Academic Breakout Sessions** (Concurrent) • Strengthening Math and Science at the K-12 Level

	• Promising Partnerships to Enhance STEM Learning • College Preparation: Enhancing STEM Undergraduate Programs
12:30 pm - 1:30 pm	**Luncheon**
1:45 pm – 3:15 pm	**Teacher Preparation: The Role of HSIs in Preparing Highly Qualified Teachers**
3:15 pm	**General Session/Close**